Playing with Prototypes

On a recent trip to the Jet Propulsion Laboratory, I brought home some toys for my children

I FREQUENTLY RETURN HOME FROM MY TRIPS TO NASA Centers with fun little things for them. The urge is irresistible, and the truth is the stuff is as much for me as it is for the kids.

One of the toys I brought home on this trip was a gyroscope. When I showed it to my daughter Amanda, she was as smitten with it as I was when I spotted it in the JPL gift shop.

For the next hour we laughed and played. We placed it on its side, right side up, upside down, on different surfaces and changed speeds. We discussed ways to improve the gyroscope. We talked about the science. It was just plain fun.

I have always liked gyroscopes. I'm not exactly sure why, but I know it has something to do with how they feel in my hands. The whole time Amanda and I were playing, I couldn't stop thinking of the power of letting people touch and play with something, and the learning experience that provides.

In his outstanding book, *Serious Play*, Michael Schrage suggests that play should be a critical core competency of any modern organization. Coupled with the serious nature of work is the joy that comes from playing with a prototype or model. A fascinating premise of the book is that prototypes and models have their power in allowing people to play with difficult concepts. If this is not proof, after an hour or so Amanda announced, "I'd like to make my own gyroscope."

> *"...It's not enough to have brilliant ideas; you have to be able to demonstrate them. You have to get people to want to play with them."*
>
> —*Michael Schrage,* Serious Play

The power of models and prototypes has always been a part of my life. I remember as a kid, not much older than Amanda, playing football on East 9th Street in Brooklyn. We used primitive forms of prototypes by drawing pictures and plays on the street with chalk. If it was raining or we were concerned about the other side stealing our plays, we would gather the team around someone's back and draw the play with an index finger.

Here again, I am reminded of *Serious Play* and the notion that a prototype, model, or simulation is important because it creates interactions between people involved with the outcome. Our drawings opened up a space to discuss and explore the execution of the play. Sometimes our discussions were so lively and went on so long that the other side would start counting down aloud to make a point of their impatience.

Back at the scrimmage line, we'd run our play and see what happened. Sometimes it worked, sometimes not. Incomplete passes, sweeps that ran out of bounds—afterwards we'd regroup in the huddle and attempt to figure out what went wrong, drawing the play again and learning from our mistakes. A couple of downs later, we'd try again and see if we could muster better yardage. Each time, we learned to read the defense a little better.

That, too, is the nature of playing with prototypes: They are a constant source of learning. This issue of ASK is devoted to prototyping, and I hope you will find plenty to learn from inside... •